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Timestamp: [year=2008; month=1; day=18; hr=13; min=57; sec=44; ms=327;]

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Application No: 10535168 Version No: 3.0

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Finished: 2007-12-28 14:49:43.554
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Total Warnings: 0
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No. of SeqIDs Defined: 217
Actual SeqID Count: 217

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Norais, Nathalie
Grandi, Guido

<120> Unexpected Meningococcus Surface Proteins

<130> P032364WO

<140> 10535168

<141> 2006-06-29

<150> PCT/IB03/06281

<151> 2003-11-17

<150> GB0226734.2

<151> 2002-11-15

<150> GB0307131.3

<151> 2003-03-27

<160> 217

<170> SeqWin99, version 1.02

<210> 1

<211> 403

<212> PRT

<213> Neisseria meningitidis

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Asp	Asp	Thr	Arg	Ile	Arg	Ala	Ser	Leu	Ala	Ser	Ile	Lys	Tyr	Cys	Val
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Asp	Asn	Gly	Ala	Ser	Val	Ile	Val	Met	Thr	His	Leu	Gly	Arg	Pro	Thr
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Glu	Gly	Glu	Phe	His	Pro	Glu	Asp	Asp	Val	Ala	Pro	Val	Ala	Ala	His
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Glu	Asn	Lys	Pro	Ala	Leu	Asn	Ala	Gly	Asp	Val	Val	Met	Leu	Gln	Asn
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Val	Arg	Ile	Asn	Lys	Gly	Glu	Lys	Lys	Asn	Asp	Leu	Glu	Leu	Gly	Lys
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Ala	Tyr	Ala	Ser	Leu	Cys	Asp	Val	Phe	Val	Asn	Asp	Ala	Phe	Gly	Thr
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Ala His Arg Ala Gln	Ala Ser Thr Glu	Ala Val Ala Gln	Ala Ala Pro																
145	150	155	160																
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	180	185	190																
Ser Lys Val Ser Thr	Lys Leu Thr Ile	Leu Glu Ser Leu	Ala Asp Lys																
	195	200	205																
Val Asp Gln Leu Ile	Val Gly Gly Gly	Ile Ala Asn Thr	Phe Leu Leu																
	210	215	220																
Ala Glu Gly Lys Ala	Ile Gly Lys Ser	Leu Ala Glu His	Asp Leu Val																
225	230	235	240																
Glu Glu Ser Lys Lys	Ile Met Ala Lys	Met Ala Ala Lys	Gly Gly Ser																
	245	250	255																
Val Pro Leu Pro Thr	Asp Val Val Val	Ala Lys Ala Phe	Ala Ala Asp																
	260	265	270																
Ala Glu Ala Val Val	Lys Asp Ile Ala	Ala Asp Ala Glu	Ala Val Val																
	275	280	285																
Lys Asp Ile Ala Asp	Val Ala Glu Asp	Glu Met Ile Leu	Asp Ile Gly																
	290	295	300																
Pro Lys Ser Ala Ala	Ala Leu Ala Asp	Leu Leu Lys Ala	Ala Gly Thr																
305	310	315	320																
Val Val Trp Asn Gly	Pro Val Gly Val	Phe Glu Phe Asp	Gln Phe Ala																
	325	330	335																
Gly Gly Thr Lys Ala	Leu Ala Glu Ala	Ile Ala Gln Ser	Lys Ala Phe																
	340	345	350																
Ser Ile Ala Gly Gly	Gly Asp Thr Leu	Ala Ala Ile Ala	Lys Phe Gly																
	355	360	365																
Val Thr Glu Gln Ile	Gly Tyr Ile Ser	Thr Gly Gly Gly	Ala Phe Leu																
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 <213> Neisseria meningitidis

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Asp Tyr Thr Ala Arg Ala Gln Val Ser Glu Ala Ile Leu Leu Ala Glu
35 40 45

Gly Gln Lys Ser Ala Val Thr Glu Tyr Tyr Leu Asn His Gly Glu Trp
50 55 60

Pro Gly Asn Asn Thr Ser Ala Gly Val Ala Thr Ser Ser Glu Ile Lys
65 70 75 80

Gly Lys Tyr Val Lys Ser Val Glu Val Lys Asn Gly Val Val Thr Ala
85 90 95

Gln Met Ala Ser Ser Asn Val Asn Asn Glu Ile Lys Gly Lys Lys Leu
100 105 110

Ser Leu Trp Ala Lys Arg Gln Asn Gly Ser Val Lys Trp Phe Cys Gly
115 120 125

Gln Pro Val Thr Arg Asp Lys Ala Lys Ala Ala Asn Asp Asp Val Thr
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Ser Thr Cys Arg Asp Ala Ser Asp Ala Ser
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<211> 685

<212> PRT

<213> Neisseria meningitidis

<400> 3

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20 25 30

Val Arg Phe Gln Lys Leu Arg Gly His Ala Cys His Tyr Cys Cys Ala
35 40 45

Asp Asp Thr His Gly Thr Pro Val Met Leu Ala Ala Gln Lys Gln Gly
50 55 60

Ile Ala Pro Glu Asp Met Ile Ala Lys Val Arg Glu Glu His Leu Ala
65 70 75 80

Asp Phe Thr Gly Phe Phe Ile Gly Tyr Asp Asn Tyr Tyr Ser Thr His

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Ala	Asn	Gly	Lys	Ile	Glu	Ser	Arg	Val	Ile	Glu	Gln	Leu	Phe	Asp	Pro					
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Glu	Lys	Gln	Met	Phe	Leu	Pro	Asp	Arg	Phe	Val	Lys	Gly	Glu	Cys	Pro					
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Lys	Cys	His	Ala	Gln	Asp	Gln	Tyr	Gly	Asp	Asn	Cys	Glu	Val	Cys	Gly					
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Thr	Thr	Tyr	Ser	Pro	Thr	Glu	Leu	Ile	Asn	Pro	Tyr	Ser	Ala	Val	Ser					
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Gly	Thr	Lys	Pro	Glu	Leu	Arg	Glu	Ser	Glu	His	Phe	Phe	Phe	Lys	Leu					
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Gly	Glu	Cys	Ala	Asp	Phe	Leu	Lys	Ala	Trp	Thr	Ser	Gly	Asn	Asn	Pro					
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His	Asp	Gly	Lys	Pro	His	Leu	Gln	Ala	Glu	Ala	Leu	Asn	Lys	Met	Lys					
			210							215				220						
Glu	Trp	Leu	Gly	Glu	Gly	Glu	Glu	Thr	Thr	Leu	Ser	Asp	Trp	Asp	Ile					
			225							230				235						
Ser	Arg	Asp	Ala	Pro	Tyr	Phe	Gly	Phe	Glu	Ile	Pro	Asp	Ala	Pro	Gly					
			245							250				255						
Lys	Tyr	Phe	Tyr	Val	Trp	Leu	Asp	Ala	Pro	Val	Gly	Tyr	Met	Ala	Ser					
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Phe	Lys	Asn	Leu	Cys	Asp	Arg	Ile	Gly	Val	Asp	Phe	Asp	Glu	Tyr	Phe					
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Lys	Ala	Asp	Ser	Gln	Thr	Glu	Met	Tyr	His	Phe	Ile	Gly	Lys	Asp	Ile					
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Gly	Gln	Lys	Met	Ser	Lys	Ser	Arg	Gly	Thr	Phe	Ile	Thr	Ala	Lys	Ser					
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Tyr	Leu	Glu	Gln	Gly	Leu	Asn	Pro	Glu	Trp	Met	Arg	Tyr	Tyr	Ile	Ala					
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Ala	Lys	Leu	Asn	Ser	Lys	Ile	Glu	Asp	Ile	Asp	Leu	Asn	Leu	Gln	Asp					
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Phe	Ile	Ser	Arg	Val	Asn	Ser	Asp	Leu	Val	Gly	Lys	Tyr	Val	Asn	Ile					

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Lys Asp Val Ala Asp Ser Glu Leu Leu Ala Lys Leu Thr Ala Gln Ser						
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Glu Ala Ile Ala Glu Cys Tyr Glu Ser Arg Glu Tyr Ala Lys Ala Leu						
	435		440		445	
Arg Asp Ile Met Ala Leu Ala Asp Ile Val Asn Glu Tyr Val Asp Ala						
	450		455		460	
Asn Lys Pro Trp Glu Leu Ala Lys Gln Glu Gly Gln Asp Glu Arg Leu						
	465		470		475	480
His Glu Val Cys Ser Glu Leu Ile Asn Ala Phe Thr Met Leu Thr Ala						
	485		490		495	
Tyr Leu Ala Pro Val Leu Pro Gln Thr Ala Ala Asn Ala Ala Lys Phe						
	500		505		510	
Leu Asn Leu Glu Ala Ile Thr Trp Ala Asn Thr Arg Asp Thr Leu Gly						
	515		520		525	
Lys His Ala Ile Asn Lys Tyr Glu His Leu Met Gln Arg Val Glu Gln						
	530		535		540	
Lys Gln Val Asp Asp Leu Ile Glu Ala Asn Lys Gln Ser Ile Ala Ala						
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Ala Ala Ala Pro Ala Ala Glu Glu Gly Lys Tyr Glu Lys Val Ala Glu						
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Gln Ala Ser Phe Asp Asp Phe Met Lys Ile Asp Met Arg Val Ala Lys						
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Val Leu Asn Cys Glu Ala Val Glu Gly Ser Thr Lys Leu Leu Lys Phe						
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Asp Leu Asp Phe Gly Phe Glu Lys Arg Ile Ile Phe Ser Gly Ile Ala						
	610		615		620	
Ala Ser Tyr Pro Asn Pro Ala Glu Leu Asn Gly Arg Met Val Ile Ala						
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Val Ala Asn Phe Ala Pro Arg Lys Met Ala Lys Phe Gly Val Ser Glu						
	645		650		655	
Gly Met Ile Leu Ser Ala Ala Thr Ala Asp Gly Lys Leu Lys Leu Leu						
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<212> PRT
<213> Neisseria meningitidis

<400> 4

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Thr Arg Met Tyr Ser Lys Met Pro Lys Val Leu His Arg Ile Gly Gly
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Lys Pro Met Val Gly Arg Val Ile Asp Thr Ala Ala Ala Leu Asn Pro
35 40 45

Gln Asn Ile Cys Val Val Ile Gly His Gly Lys Glu Gln Val Leu Asp
50 55 60

Thr Val Lys Arg Asp Val Val Trp Val Glu Gln Thr Glu Gln Leu Gly
65 70 75 80

Thr Gly His Ala Val Lys Thr Ala Leu Pro His Leu Ser Ala Glu Gly
85 90 95

Arg Thr Leu Val Leu Tyr Gly Asp Val Pro Leu Ile Asp Val Glu Thr
100 105 110

Leu Glu Thr Leu Leu Glu Ala Ala Gly Asn Glu Val Gly Leu Leu Thr
115 120 125

Asp Val Pro Asn Asp Pro Thr Gly Leu Gly Arg Ile Ile Arg Asp Ser
130 135 140

Asn Gly Ser Val Thr Ala Ile Val Glu Glu Lys Asp Ala Asp Ala Val
145 150 155 160

Gln Lys Ala Val Lys Glu Ile Asn Thr Gly Ile Leu Val Leu Pro Asn
165 170 175

Ala Lys Leu Glu Asn Trp Leu Asn Ser Leu Ser Ser Asn Asn Ala Gln
180 185 190

Gly Glu Tyr Tyr Leu Thr Asp Leu Ile Ala Lys Ala Val Ala Asp Gly
195 200 205

Ile Lys Val His Pro Val Gln Val Arg Ala Ser His Leu Ala Ala Gly
210 215 220

Val Asn Asn Lys Leu Gln Leu Thr Glu Leu Glu Arg Ile Phe Gln Thr
225 230 235 240

Glu Gln Ala Gln Glu Leu Leu Lys Ala Gly Val Thr Leu Arg Asp Pro
245 250 255

Ala Arg Phe Asp Leu Arg Gly Arg Leu Lys His Gly Gln Asp Val Val
260 265 270

Ile Asp Val Asn Cys Ile Phe Glu Gly Asp Ile Glu Leu Gly Asp Asn

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Asn Ser Lys Ile Ala Pro Phe Ser His Leu Glu Ser Cys Glu Val Gly		
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Glu Asn Asn Arg Ile Gly Pro Tyr Ala Arg Leu Arg Pro Gln Ala Arg		
325	330	335
Leu Ala Asp Asp Val His Val Gly Asn Phe Val Glu Ile Lys Asn Ala		
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Ala Ile Gly Lys Gly Thr Lys Ala Asn His Leu Thr Tyr Ile Gly Asp		
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Ala Glu Val Gly Cys Lys Thr Asn Phe Gly Ala Gly Thr Ile Ile Ala		
370	375	380
Asn Tyr Asp Gly Val His Lys His Lys Thr Val Ile Gly Asp Glu Val		
385	390	395
Arg Ile Gly Ser Asn Cys Val Leu Val Ala Pro Val Thr Leu Gly Asn		
405	410	415
Lys Val Thr Thr Gly Ala Gly Ser Thr Ile Thr Arg Asn Val Glu Asp		
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Asn Lys Leu Ala Leu Ala Arg Ala Arg Gln Thr Val Ile Glu Gly Trp		
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Ser Val Lys Gly Gln Val Glu Ser Ala Val Glu Thr Val Ser Gly Ala		
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Val Glu Gln Val Lys Glu Thr Val Ala Glu Met Leu Ser Glu Ala Glu		
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Glu Ala Ala Glu Lys Ala Ala Glu Gln Val Glu Ala Ala Lys Glu Ala		

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Ala	Thr	Thr	Glu	Glu	His	Lys	Leu	Gly	Trp	Ala	Ala	Arg	Leu	Lys	Gln									
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Gly	Leu	Thr	Lys	Ser	Arg	Asp	Lys	Met	Ala	Lys	Ser	Leu	Ala	Gly	Val									
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Phe	Gly	Gly	Gly	Gln	Ile	Asp	Glu	Asp	Leu	Tyr	Glu	Glu	Leu	Glu	Thr									
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Val	Leu	Ile	Thr	Ser	Asp	Met	Gly	Met	Glu	Ala	Thr	Glu	Tyr	Leu	Met									
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Lys	Asp	Val	Arg	Asp	Arg	Val	Ser	Leu	Lys	Gly	Leu	Lys	Asp	Gly	Asn									
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Glu	Leu	Arg	Gly	Ala	Leu	Lys	Glu	Ala	Leu	Tyr	Asp	Leu	Ile	Lys	Pro									
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Leu	Glu	Lys	Pro	Leu	Val	Leu	Pro	Glu	Thr	Lys	Glu	Pro	Phe	Val	Ile									
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Met	Leu	Ala	Gly	Ile	Asn	Gly	Ala	Gly	Lys	Thr	Thr	Ser	Ile	Gly	Lys									
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Leu	Ala	Lys	Tyr	Phe	Gln	Ala	Gln	Gly	Lys	Ser	Val	Leu	Leu	Ala	Ala									
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Gly	Asp	Thr	Phe	Arg	Ala	Ala	Ala	Arg	Glu	Gln	Leu	Gln	Ala	Trp	Gly									
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Glu	Arg	Asn	Asn	Val	Thr	Val	Ile	Ser	Gln	Thr	Thr	Gly	Asp	Ser	Ala									
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Ala	Val	Cys	Phe	Asp	Ala	Val	Gln	Ala	Ala	Lys	Ala	Arg	Gly	Ile	Asp									
				290						295						300								
Ile	Val	Leu	Ala	Asp	Thr	Ala	Gly	Arg	Leu	Pro	Thr	Gln	Leu	His	Leu									
305																								